

FASTENER ASSEMBLY AND METHOD OF MAKING THE SAME

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation-in-part of presently-pending U.S. Patent Application Serial No. 10/414,828, filed April 16, 2003, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

The present invention relates generally to plastic fasteners of the type used to attach merchandise tags to pieces of fabric.

Plastic fasteners of the type used to attach merchandise tags to pieces of fabric, such as articles of clothing, product labels, and the like, are well known in the art and widely used in the retail industry. Typically, such fasteners comprise an elongated plastic member having a first end shaped to define a cross-bar (also commonly referred to as a "T-bar"), a second end shaped to define a paddle, and a thin filament portion interconnecting the cross-bar and the paddle. As will be described further below, the cross-bar is adapted to be inserted first through a tag and then into a desired piece of fabric, with the paddle being appropriately sized and shaped to keep the tag from being pulled off the second end of the filament portion.

Plastic fasteners of the type described above are typically mass-produced in either one of two different forms known as fastener stock. A first type of fastener stock is a clip-type assembly, said clip comprising a plurality of fasteners, each such fastener comprising a flexible filament having a cross-bar at one end thereof and a paddle at the opposite end thereof. The fasteners are arranged in a spaced, side-by-side orientation, with the respective cross-bars parallel to one another and the respective paddles parallel to one another, each of the cross-bars being joined to a common, orthogonally-disposed runner

bar by a severable connector. Adjacent paddles also may be interconnected by severable connectors extending therebetween.

The aforementioned fastener clip is typically made through the process of injection molding. Several commercial embodiments of the above-described fastener clip have been sold by the present assignee, Avery Dennison Corporation, as DENNISON® SWIFTACH® fastener clips.

A second type of fastener stock, which is shown in U.S. Patent No. 4,955,475, inventors McCarthy et al., issued September 11, 1990 (which patent is incorporated herein by reference), comprises a plurality of fasteners arranged in an end-to-end alignment, the paddles and T-bars of successive fasteners being joined together by severable connectors so as to form a supply of continuously connected fastener stock.

The second type of fastener stock is commonly manufactured through a process which is referred to as continuous molding. An example of continuously connected fastener stock which is manufactured using a process of continuous molding is disclosed in U.S. Patent No. 4,462,784, inventor Russell, issued July 31, 1984 (which patent is incorporated herein by reference). In said patent, the continuously connected fastener stock is made by a rotary extrusion process that involves the use of a rotating molding wheel whose periphery is provided with molding cavities that are complementary in shape to the molded fastener stock. To form the fastener stock, molten plastic is extruded into the cavities of the molding wheel with a layer of controlled film overlying the peripheral impression. The molten plastic is then allowed to solidify. A knife in substantially elliptical contact with the peripheral impression is then used to skive excess plastic from the rotating molding wheel (i.e., the layer of controlled film), leaving plastic only in the molding cavities. After the skiving process, the continuously connected fastener stock is removed, in-line, from the cavities in the molding wheel. Transfer rolls advance the fastener stock typically to a stretching station where selected portions of the fastener stock are selectively

distended (e.g., using diverging sprocket wheels). After the stretching process, the fastener stock is collected onto a windup roll for packaging.

Typically, the practice of at least partially separating an individual plastic fastener from a supply of fastener stock and, in turn, inserting the individual plastic fastener through a tag and into a piece of fabric is achieved using a hand-held apparatus commonly referred to as a tagger gun. Examples of tagger guns are disclosed in the following U.S. Patents, both of which are incorporated herein by reference: U.S. Patent No. 4,955,475, inventors McCarthy et al., which issued September 11, 1990; and U.S. Patent No. 4,288,017, inventor Russell, which issued September 8, 1981.

Tagger guns typically comprise a hollow needle, the needle typically including a stem portion. The stem portion typically is generally cylindrical in shape and has a longitudinally-extending, cylindrically-shaped bore adapted to receive the cross-bar of a fastener. In addition, said stem portion typically has a longitudinally-extending slot adapted to permit the filament portion of a fastener to extend therethrough while the cross-bar of the fastener is disposed in the longitudinal bore of the stem portion. The stem portion also typically has a sharpened tip adapted for insertion into a desired article of commerce. The needle may also include a base portion, said base portion being attached to the rear of the stem portion and being adapted to be removably received in the tool. The stem portion and the base portion may be a unitary structure or, as is more often the case, the base portion is insert-molded onto the rear end of the stem portion.

Tagger guns also typically comprise an ejector rod for ejecting the cross-bar through the needle and into the article of commerce, a knife or similar severing means for cutting the severable connector between the cross-bar being dispensed and its adjacent cross-bar and feeding means for advancing the assembly of fasteners in the tool so as to align the forwardmost cross-bar with the bore of the hollow needle.

The practice of using a tagger gun to secure a tag to a piece of fabric is typically accomplished in the following manner. The supply of fastener stock is loaded into the tagger gun. The sharpened tip of the needle of the tagger gun is then disposed through the desired tag and into the piece of fabric. The ejector rod is then activated, such as through the compression of a trigger, which, in turn, ejects the cross-bar first through the tag and then through the desired piece of fabric, thereby disposing the cross-bar and the paddle on opposite sides of the desired piece of fabric with the tag slidably disposed onto the filament of the fastener. As noted above, the paddle is appropriately sized and shaped to keep the tag from being pulled off the filament portion of the fastener.

Although well-known and widely used in commerce, plastic fasteners of the type described above provide few deterrents to unscrupulous consumers who engage in the act of ticket-switching. Specifically, it has been found that unscrupulous consumers often attempt to replace the merchandise tag associated with a product with a merchandise tag associated with another, less expensive, product. These consumers may accomplish this act of ticket-switching by severing the plastic fastener, removing the severed plastic fastener and merchandise tag from the product, and then securing a less expensive merchandise tag onto the product using a similarly constructed plastic fastener. As can be appreciated, because conventional plastic fasteners are provided with no identification and/or authentication means, security officials are unable to readily ascertain whether an original plastic fastener has been replaced with a similar plastic fastener as part of a ticket-switching act, which is highly undesirable.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a new and improved fastener assembly of the type used to attach a tag to a product.

It is another object of the present invention to provide a fastener assembly of the type described above which preferably can be mass-produced into a continuously connected supply of fastener stock and which preferably can be dispensed using conventional tagger guns.

It is yet another object of the present invention to provide a fastener assembly as described above which effectively deters against the act of ticket-switching.

It is yet still another object of the present invention to provide a fastener assembly as described above which has a limited number of parts, which is inexpensive to manufacture and which is easy to use.

Therefore, there is provided a fastener assembly comprising a plastic fastener comprising, a filament, a paddle at one end of said filament, and a cross-bar at the other end of said filament, and identifying matter provided onto the paddle of said plastic fastener.

Various other features and advantages will appear from the description to follow. In the description, reference is made to the accompanying drawings which form a part thereof, and in which is shown by way of illustration, various embodiments for practicing the invention. The embodiments will be described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that structural changes may be made without departing from the scope of the invention. The following detailed description is therefore, not to be taken in a limiting sense, and the scope of the present invention is best defined by the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings wherein like reference numerals represent like parts:

Fig. 1 is a front perspective view of a first embodiment of a fastener assembly constructed according to the teachings of the present invention;

Fig. 2 is a front plan view of the fastener assembly shown in Fig. 1;

Fig. 3 is a fragmentary section view of the fastener assembly shown in Fig. 2, taken along lines 3-3;

Fig. 4 is a fragmentary top plan view of a plurality of the fastener assemblies shown in Fig. 1, said fastener assemblies being interconnected to form a quantity of continuously connected fastener stock constructed according to the teachings of the present invention;

Fig. 5 is schematic representation, broken away in part, of a system for constructing the quantity of continuously connected fastener stock shown in Fig. 4, said system being constructed according to the teachings of the present invention;

Fig. 6 is a fragmentary section view of a second embodiment of a fastener assembly constructed according to the teachings of the present invention;

Fig. 7 is a schematic representation of a system for constructing the fastener assembly shown in Fig. 6;

Fig. 8 is a fragmentary section view of a third embodiment of a fastener assembly constructed according to the teachings of the present invention;

Fig. 9 is a front perspective view of a fourth embodiment of a fastener assembly constructed according to the teachings of the present invention;

Fig. 10 is a front perspective view of a fifth embodiment of a fastener assembly constructed according to the teachings of the present invention;

Fig. 11 is a fragmentary top plan view of a sixth embodiment of a fastener assembly constructed according to the teachings of the present invention, a plurality of said fastener

assemblies being interconnected to form a quantity of continuously connected fastener stock;

Fig. 12 is a front perspective view of a seventh embodiment of a fastener assembly constructed according to the teachings of the present invention;

Fig. 13 is a front perspective view of an eighth embodiment of a fastener assembly constructed according to the teachings of the present invention; and

Fig. 14 is a front perspective view of a ninth embodiment of a fastener assembly constructed according to the teachings of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to Figs. 1 and 2, there is shown a first embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 11. As will be described further below, fastener assembly 11 can be used to attach a merchandise tag, or ticket, to a piece of fabric.

Fastener assembly 11 comprises a fastener 13 and a label 15 secured to fastener 13.

Fastener 13 is an elongated unitary plastic member having a first end which is shaped to define a cross-bar 17, a second end which is shaped to define a paddle 19, and a thin filament 21 which interconnects cross-bar 17 and paddle 19.

Cross-bar 17 has a generally D-shaped lateral cross-section, as can be seen most clearly in Fig. 1, cross-bar 17 comprising a flat bottom surface 23 and a rounded top surface 25. As such, cross-bar 17 is appropriately sized and shaped to be inserted through a tag and into a piece of fabric, preferably through the hollow slotted needle of a conventional tagging gun.

Paddle 19 is in the form of a thin rectangular member which is appropriately sized and shaped to prevent a tag which is slidably mounted on filament 21 from being removed thereover. As seen most clearly in Fig. 3, paddle 19 includes a substantially flat top surface 27 and a substantially flat bottom surface 29.

Label 15 is conventional in construction and includes a substrate layer 31 which is preferably in the form of a thin, rectangular piece of paper, or other suitable material, substrate layer 31 comprising a substantially flat bottom surface 33 and a substantially flat top surface 35. An image layer 37 is preferably printed onto top surface 35 of substrate layer 31, for example, using a color ink jet printer. Image layer 37 preferably displays a particular product identifier, or marking, 39. Identifier 39 is represented in Figs. 1, 2 and

4 as being in the form of the word "MARK". However, it is to be understood that identifier 39 is not limited to the word "MARK". Rather, identifier 39 is meant to represent any conceivable marking which identifies a particular product or source thereof without departing from the spirit of the present invention. Examples of some potential product identifiers 39 include, inter alia, a company name, a product name, a logo and/or a product barcode.

A pressure-sensitive adhesive 41 is preferably formed onto bottom surface 33 of substrate layer 31 and serves to secure label 15 onto top surface 27 of paddle 19. It should be noted that an individual label 15 may be adhered onto an associated paddle 19 using a pressure-sensitive label applicator, as will be described further in detail below.

The visibility of label 15 on fastener 13 provides fastener assembly 11 with a couple notable advantages over conventional fasteners which do not include a label.

As a first advantage, displaying label 15 on fastener 13 can be used to further authenticate the source of the article to which fastener assembly 11 is attached, thereby deterring counterfeiting, which is highly desirable.

As a second advantage, displaying label 15 on fastener 13 can be used to increase the recognition of the manufacturer name, product name, and/or company logo present on image layer 37, thereby increasing product marketability, which is highly desirable.

As a third advantage, displaying label 15 on fastener 13 can be used to identify and authenticate fastener assembly 11, thereby serving as greater deterrent against the act of ticket-switching, which is highly desirable.

As can be readily appreciated, fastener assembly 11 may be molded as part of a quantity of either continuously connected fastener stock or fastener stock of the type having an orthogonally disposed runner bar.

Fastener assembly 11 is preferably molded as part of a quantity of continuously connected fastener stock 43 which is shown in detail in Fig. 4. Specifically, fastener stock

43 comprises a plurality of individual fastener assemblies 11 which are arranged in an end-to-end alignment. Paddles 19 of successive fastener assemblies 11 are joined together by a pair of spaced apart severable connectors 45. Similarly, T-bars 17 of successive fastener assemblies 11 are joined together by a severable connector 47. In this manner, the plurality of fastener assemblies 11 are joined together to form the continuously connected fastener stock 43.

Fastener stock 43 further includes a molding strip 49, the paddle 19 of each fastener assembly 11 being connected to molding strip 49 by a severable connector 51. It should be noted that molding strip 49 is preferably separated from the remainder of fastener stock 43 after fabrication (i.e., after application of label 15 onto fastener 13) but prior to use.

Referring now to Fig. 5, fastener stock 43 is preferably manufactured using a system 53 constructed according to the teachings of the present invention. System 53 is a continuous in-line system which includes an apparatus 55 for molding a continuous strip of fasteners 13, a device 57 for stretching the continuous strip of fasteners 13 produced by apparatus 55, a pressure-sensitive labeling device 59 for applying an individual label 15 onto the paddle 19 of each fastener 13 in the continuous strip so as to yield fastener stock 43, and an apparatus 61 for winding fastener stock 43 into a roll suitable for storage and transport.

Apparatus 55 is conventional in construction and is preferably of the type described in U.S. Patent No. 4,461,738 to D.B. Russell, which patent is incorporated herein by reference. Specifically, apparatus 55 includes an extruder 63, a manifold assembly 65, a manifold mount 67, a rotatable molding wheel 69, a skiving knife and hold-down assembly 71, a take-off roll 73 and transfer rolls 75. It should be noted that the outer periphery of rotatable molding wheel 69 is provided with interconnected molding cavities 77 that are complementary in shape to a molded clip of fasteners 13.

In use, apparatus 55 functions in the following manner to produce a continuous strip of fasteners 13. Specifically, as wheel 69 rotates in the direction represented by arrow 79 in Fig. 5, extruder 63 extrudes molten plastic into cavities 77 with a layer of controlled film overlying the peripheral impression of wheel 69. The molten plastic deposited into cavities 77 is then allowed to solidify. Once the molten plastic solidifies, skiving knife and hold-down assembly 71, which is in substantially elliptical contact with the peripheral surface of wheel 69, is then used to skive excess plastic from rotating wheel 69, thereby leaving plastic only within cavities 77. After the skiving process, take-off roll 73 removes the continuously connected clip of fasteners 13 from within cavities 77 of rotating wheel 69. Transfer rolls 75, in turn, advance in-line the continuously connected clip of fasteners 13 to device 57.

Device 57 is preferably in the form of a pair of diverging sprocket wheels and serves to distend selective portions of the continuously connected clip of fasteners 13. For example, the filament 21 of each fastener 13 is preferably stretched to increase its strength and flexibility.

After completion of the stretching process, the continuously connected clip of fasteners 13 is transported in-line from device 57 to labeling device 59. Labeling device 59 is preferably a model Q60 high speed in-line label applicator of the type manufactured by Quadrel, Inc. of Mentor, Ohio. Labeling device 59 is provided with a stock supply of labels 15, the stock supply of labels 15 preferably being in the form of a continuous backing strip with labels 15 disposed thereon in a side-by-side relationship.

Labeling device 59 receives in-line the continuously connected clip of fasteners 13 from stretching device 57, orientates said clip and applies an individual label 15 from the stock supply onto top surface 27 of each paddle 19. As can be appreciated, the pressure created by device 59 in applying each label 15 onto its associated paddle 19 causes pressure-sensitive adhesive 41 to adhere bottom surface 33 of substrate layer 31 onto top

surface 27 of its corresponding paddle 19. In this manner, continuously connected clip 43 of fastener assemblies 11 is created.

Continuously connected clip 43 is fed in-line from labeling device 59 to apparatus 61. Apparatus 61 is preferably in the form of a windup roll which continuously rotates in the direction represented by arrow 81 in Fig. 5 so as to wrap a length of clip 43 into a roll suitable for packaging.

Although fastener assembly 11 is represented herein as comprising a label 15 secured onto top surface 27 of paddle 19 of a corresponding fastener 13 using a pressure-sensitive adhesive 41, it is to be understood that fastener assembly 11 is not limited to label 15 being secured to top surface 27 of a corresponding fastener 13 using a pressure-sensitive adhesive 41. Rather, it is to be understood that label 15 may be secured to any portion of an individual fastener 13 by any means without departing from the spirit of the present invention.

As an example, referring now to Fig. 6, there is shown a second embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 111. Fastener assembly 111 is similar to fastener assembly 11 in that fastener assembly 111 comprises a fastener 113 and a label 115 secured to fastener 113. Fastener assembly 111 differs from fastener assembly 11 in that fastener 113 is insert molded, or in-molded, around at least a portion of label 115, whereas label 15 is secured onto a surface of fastener 13 using a pressure-sensitive adhesive 41.

Specifically, label 115 comprises a substrate layer 131 which includes a substantially flat bottom surface 133 and a substantially flat top surface 135. An image layer 137 is preferably printed onto top surface 135 of substrate layer 131. During the manufacture of fastener assembly 111, which will be described further in detail below, paddle 119 is insert molded at least partially around label 115 in such a manner that image

layer 137 lies substantially flush with top surface 127 of paddle 119, as seen clearly in Fig. 6. As can be appreciated, the solidification of the molten plastic used to form fastener 113 serves to permanently retain label 115 on paddle 119.

Referring now to Fig. 7, a clip of interconnected fastener assemblies 111 is preferably manufactured using a system 153 constructed according to the teachings of the present invention. System 153 is similar in construction to system 53 in that system 153 is a continuous in-line system which includes a molding apparatus 155, a stretching device 57 and a winding apparatus 61. In one respect, system 153 differs from system 53 in that system 153 does not include a pressure-sensitive labeling device.

Molding apparatus 155 is similar in construction to apparatus 55 in that apparatus 155 comprises an extruder 63, a manifold assembly 65, a manifold mount 67, a rotatable molding wheel 69, a skiving knife and hold-down assembly 71, a take-off roll 73 and transfer rolls 75. Molding apparatus 155 differs from apparatus 55 in that molding apparatus 155 comprises a label depositing device 176 disposed along the peripheral surface of wheel 69 between take-off roll 73 and manifold mount 67. As will be described further below, device 176 can be used to deposit labels 115 into cavities 77 of wheel 69 and is preferably in the form of a movable robot arm.

Molding apparatus 155 operates in the following manner to create a clip of continuously connected fastener assemblies 111. Specifically, as wheel 69 rotates in the direction of arrow 79, label depositing device 176 inserts a label 115 into each cavity 77 which is disposed directly therebeneath. With labels 115 positioned within associated cavities 77, extruder 63 then extrudes molten plastic into cavities 77 with a layer of controlled film overlying the peripheral impression of wheel 69. The molten plastic deposited into cavities 77 is then allowed to solidify. It should be noted that once the molten plastic solidifies, each label 115 is at least partially retained within a corresponding paddle 119. Skiving knife and hold-down assembly 71, which is in substantially elliptical

contact with the peripheral surface of wheel 69, is then used to skive excess plastic from rotating wheel 69, thereby leaving plastic only within cavities 77. After the skiving process, take-off roll 73 removes the continuously connected clip, or fastener stock, of fastener assemblies 111 from within cavities 77 of rotating wheel 69. Transfer rolls 75 advance in-line the continuously connected clip of fastener assemblies 111 to device 57 where said clip is stretched. After completion of the stretching process, the stretched clip is transported in-line to apparatus 61 where said clip is wound-up into a roll suitable for packaging.

It should be noted that an insert molding process can be used to manufacture modifications of fastener assembly 111. For example, referring now to Fig. 8, there is shown a third embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 211. Fastener assembly 211 is similar to fastener assembly 111 in that fastener assembly 211 comprises a label 115 around which is molded a paddle 219 of a fastener 213.

Fastener assembly 211 differs from fastener assembly 111 in that paddle 219 of fastener 213 is molded entirely around label 115 with image layer 137 being spaced in from top surface 227 of paddle 219 and substrate layer 115 being spaced in from bottom surface 229 of paddle 219. As can be appreciated, fastener 213 is preferably manufactured out of a clear plastic material to enable image layer 137 to be readily viewable through paddle 219.

As noted in detail above, the application of label 15 onto plastic fastener 13 serves as, inter alia, an effective deterrent against product counterfeiting, an opportunity for increased product and company marketability, and a considerable obstacle to the act of ticket-switching. However, it is to be understood that the present invention is not limited to the application of label 15 onto plastic fastener 13 in order to provide paddle 19 with uniquely identified indicia (e.g., a logo, company name, etc.). Rather, it is to be understood

that fastener assembly 11 represents any conceivable means for providing uniquely identifying matter onto a plastic fastener 13 without departing from the spirit of the present invention.

In fact, instead of applying identifying matter onto label 15 which, in turn, is secured onto paddle 19 of fastener 13, it is to be understood that identifying matter could, in the alternative, be directly printed onto paddle 19. Specifically, upon completion of the molding process for fastener stock 43, a printer head (e.g., an inkjet printer head) may be used to directly print uniquely identifying matter onto paddle 19 of fastener 13 without departing from the spirit of the present invention.

As an example, referring now to Fig. 9, there is shown a fourth embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 311. Fastener assembly 311 is similar to fastener assembly 11 in that fastener assembly 311 comprises fastener 13. Fastener assembly 311 differs from fastener assembly 11 in that uniquely identifying matter is directly printed onto paddle 13. Specifically, a particular company or product identifier, or marking, 313 is printed directly onto paddle 13. Marking 313 is represented herein as being in the form of the word "MARK". However, it is to be understood that identifier is not limited to being in the form of the word "MARK". Rather, it is to be understood that marking 313 is meant to represent any conceivable marking which identifies a particular product (e.g., a logo) or a company that manufactures and/or distributes said product without departing from the spirit of the present invention. As can be appreciated, printing marking 313 onto paddle 19 of fastener 13 enables fastener assembly 311 to serve as both an effective deterrent against product counterfeiting and an opportunity to increase the exposure, visibility and marketability of a product and/or company, which is highly desirable.

As another example, referring to Fig. 10, there is shown a fifth embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 411. Fastener assembly 411 is similar to fastener assembly 11 in that fastener assembly 411 comprises fastener 13. Fastener assembly 411 differs from fastener assembly 11 in that uniquely identifying matter is directly printed onto paddle 13. Specifically, a barcode 413 is printed directly onto paddle 13. It should be noted that barcode 413 preferably contains information relating to the particular product to which it is secured. As such, if barcode 413 contains information relating to the price of the product to which it is secured, fastener assembly 411 would effectively eliminate the need for a merchandise tag, thereby enabling said product to be displayed in a more aesthetically pleasing manner, which is highly desirable. Furthermore, if barcode 413 contains inventory, serial and/or lot control information relating to the product to which it is secured, fastener assembly 411 would serve as a considerably effective means for deterring product counterfeiting and ticket-switching, which is highly desirable.

As another example, referring to Fig. 11, there is shown a sixth embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 511. Fastener assembly 511 is represented as being molded as part of a quantity of continuously connected fastener stock 543. Fastener assembly 511 is similar to fastener assembly 11 in that fastener assembly 511 comprises fastener 13. Fastener assembly 511 differs from fastener assembly 11 in that uniquely identifying matter is directly printed onto paddle 13. Specifically, a sequential identifier 513 (e.g., a numerical value) is printed directly onto paddle 13. It should be noted that each successive paddle 13 of fastener stock 543 is provided with a corresponding successive sequential identifier 513. As can be appreciated, by sequentially identifying each successive fastener 13 in fastener stock 543, fastener stock 543 can be used to provide

inventory, serial and/or lot control information relating to the products to which they are secured. In this manner, fastener assembly 511 would serve as a considerably effective means for deterring product counterfeiting and the act of ticket-switching, which is highly desirable.

It should also be noted that, instead of applying identifying matter onto a label 15 which, in turn, is secured onto paddle 19 of fastener 13, it is to be understood that fastener 13 could be constructed such that paddle 19 displays said uniquely identifying matter without departing from the spirit of the present invention.

As an example, referring now to Fig. 12, there is shown a seventh embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 611. Fastener assembly 611 is similar to fastener assembly 11 in that fastener assembly 611 comprises a fastener 613 which is similar in construction to fastener 13. Fastener assembly 611 differs from fastener assembly 11 only in that paddle 619 of plastic fastener 613 is different in shape from paddle 19 of fastener 13. Specifically, during its molding process, paddle 619 is shaped to include uniquely identifying matter 615, said identifying matter 615 being slightly raised from the remainder of paddle 619 for increased visibility. Identifying matter 615 is represented herein as being in the form of a logo which identifies the product to which fastener assembly 611 is secured or a company that manufactures and/or distributes said product. As can be appreciated, identifying matter 615 on paddle 619 enables fastener assembly 611 to serve as both an effective deterrent against product counterfeiting and an opportunity to increase the exposure, visibility and marketability of a product and/or company, which is highly desirable.

As another example, referring now to Fig. 13, there is shown an eighth embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 711. Fastener assembly 711 is similar to

fastener assembly 11 in that fastener assembly 711 comprises a fastener 713 which is similar in construction to fastener 13. Fastener assembly 711 differs from fastener assembly 11 only in that paddle 719 of plastic fastener 713 is different in shape from paddle 19 of fastener 13. Specifically, during its molding process, the entire paddle 719 is formed into the shape of uniquely identifying matter. In the present embodiment, paddle 719 is formed into the shape of a particular logo which identifies the product to which fastener assembly 711 is secured or a company that manufactures and/or distributes said product. In an optional manufacturing step, paddle 719 may be stamped so as to define one or more cut-outs 721 therewithin in order to more accurately depict a particular logo. As can be appreciated, shaping paddle 719 in the form of uniquely identifying matter (e.g., a logo) enables fastener assembly 711 to serve as both an effective deterrent against product counterfeiting and an opportunity to increase the exposure, visibility and marketability of a product and/or company, which is highly desirable.

As another example, referring now to Fig. 14, there is shown a ninth embodiment of a fastener assembly constructed according to the teachings of the present invention and identified generally by reference numeral 811. Fastener assembly 811 is similar to fastener assembly 11 in that fastener assembly 811 comprises a fastener 813 which is similar in construction to fastener 13. Fastener assembly 811 differs from fastener assembly 11 only in that paddle 819 of plastic fastener 813 is different in shape from paddle 19 of fastener 13. Specifically, after the molding process for fastener 813 has been completed, a subsequent stamping step is performed to define one or more non-circular cut-outs 815 in paddle 819. Together, cut-outs 815 serve to provide paddle 819 with uniquely identifying matter (e.g., a logo). As can be appreciated, the inclusion of cut-outs 815 so as to shape paddle 819 to display an identifying matter serves as both an effective deterrent against product counterfeiting and an opportunity to increase the exposure, visibility and marketability of a product and/or company, which is highly desirable.

The embodiments shown in the present invention are intended to be merely exemplary and those skilled in the art shall be able to make numerous variations and modifications to it without departing from the spirit of the present invention. All such variations and modifications are intended to be within the scope of the present invention as defined in the appended claims.